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## SEQUENCE LISTING

<110> Kato, Seishi  
Kimura, Tomoko

<120> YEAST CELLS EXPRESSING MODIFIED G PROTEINS AND METHODS  
OF USE THEREFOR

<130> CPI-012C8US

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<160> 123

<170> PatentIn Ver. 2.0

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Leu Met

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&lt;213&gt; Homo sapiens

&lt;400&gt; 30

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20 25 30

Leu

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&lt;211&gt; 22

&lt;212&gt; PRT

&lt;213&gt; Chimaera sp.

&lt;400&gt; 32

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Phe Cys Cys Thr Leu Met  
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&lt;210&gt; 33

&lt;211&gt; 29

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&lt;400&gt; 33

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&lt;400&gt; 35

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Cys Cys Thr Leu Met  
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&lt;400&gt; 36

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Cys Cys Thr Leu Met  
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&lt;400&gt; 37

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Phe

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Gln

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Leu

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Tyr

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Tyr	Ile	Asn	Ala	Ser	Val	Ala	Gly	Gly	Ser	Asp	Phe	Leu	Asn	Asp	Tyr
	130					135					140				
Val	Leu	Lys	Tyr	Ser	Glu	Arg	Tyr	Glu	Thr	Arg	Arg	Arg	Val	Gln	Ser
145					150					155					160
Thr	Gly	Arg	Ala	Lys	Ala	Ala	Phe	Asp	Glu	Asp	Gly	Asn	Ile	Ser	Asn
				165					170					175	
Val	Lys	Ser	Asp	Thr	Asp	Arg	Asp	Ala	Glu	Thr	Val	Thr	Gln	Asn	Glu
			180					185					190		
Asp	Ala	Asp	Arg	Asn	Asn	Ser	Ser	Arg	Ile	Asn	Leu	Gln	Asp	Ile	Cys
		195					200					205			
Lys	Asp	Leu	Asn	Gln	Glu	Gly	Asp	Asp	Gln	Met	Phe	Val	Arg	Lys	Thr
	210					215					220				
Ser	Arg	Glu	Ile	Gln	Gly	Gln	Asn	Arg	Arg	Asn	Leu	Ile	His	Glu	Asp
225					230					235					240
Ile	Ala	Lys	Ala	Ile	Lys	Gln	Leu	Trp	Asn	Asn	Asp	Lys	Gly	Ile	Lys
				245					250					255	
Gln	Cys	Phe	Ala	Arg	Ser	Asn	Glu	Phe	Gln	Leu	Glu	Gly	Ser	Ala	Ala

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<400> 108
Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro
 1             5             10             15
Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln
 20             25             30
Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly
 35             40             45

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Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu  
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys  
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr  
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp  
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys  
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala  
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys  
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr  
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala  
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly  
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met  
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu  
 355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile  
 370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
 385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
 405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
 420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
 435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
 450 455 460

Asn Leu Lys Glu Tyr Asn Leu Val  
 465 470

<210> 109

<211> 472

<212> PRT

<213> Chimaera sp.

<400> 109

Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
 1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
 20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly  
 35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
 50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
 65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
 85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
 100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
 115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
 130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu  
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys  
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr  
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp  
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys  
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala  
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys  
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr  
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala  
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly  
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met  
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu  
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile  
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
435 440 445



Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
 450 455 460

Asn Leu Lys Asp Ile Met Leu Gln  
 465 470

<210> 110  
 <211> 472  
 <212> PRT  
 <213> Chimaera sp.

<400> 110  
 Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
 1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
 20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Leu Gly  
 35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
 50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
 65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
 85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
 100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
 115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
 130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
 145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
 165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu  
 180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys  
 195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr  
 210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp

225		230		235		240
Ile Ala Lys Ala	Ile Lys Gln Leu Trp	Asn Asn Asp Lys Gly	Ile Lys			
	245	250	255			
Gln Cys Phe Ala	Arg Ser Asn Glu	Phe Gln Leu Glu Gly	Ser Ala Ala			
	260	265	270			
Tyr Tyr Phe Asp	Asn Ile Glu Lys	Phe Ala Ser Pro	Asn Tyr Val Cys			
	275	280	285			
Thr Asp Glu Asp	Ile Leu Lys Gly	Arg Ile Lys Thr	Thr Gly Ile Thr			
	290	295	300			
Glu Thr Glu Phe	Asn Ile Gly Ser	Ser Lys Phe Lys	Val Leu Asp Ala			
305	310	315	320			
Gly Gly Gln Arg	Ser Glu Arg Lys	Lys Trp Ile His	Cys Phe Glu Gly			
	325	330	335			
Ile Thr Ala Val	Leu Phe Val Leu	Ala Met Ser Glu	Tyr Asp Gln Met			
	340	345	350			
Leu Phe Glu Asp	Glu Arg Val Asn	Arg Met His Glu	Ser Ile Met Leu			
	355	360	365			
Phe Asp Thr Leu	Leu Asn Ser Lys	Trp Phe Lys Asp	Thr Pro Phe Ile			
	370	375	380			
Leu Phe Leu Asn	Lys Ile Asp Leu	Phe Glu Glu Lys	Val Lys Ser Met			
385	390	395	400			
Pro Ile Arg Lys	Tyr Phe Pro Asp	Tyr Gln Gly Arg	Val Gly Asp Ala			
	405	410	415			
Glu Ala Gly Leu	Lys Tyr Phe Glu	Lys Ile Phe Leu	Ser Leu Asn Lys			
	420	425	430			
Thr Asn Lys Pro	Ile Tyr Val Lys	Arg Thr Cys Ala	Thr Asp Thr Gln			
	435	440	445			
Thr Met Lys Phe	Val Leu Ser Ala	Val Thr Asp Leu	Ile Ile Gln Gln			
	450	455	460			
Asn Leu Lys Gln	Tyr Glu Leu Leu					
465	470					

&lt;210&gt; 111

&lt;211&gt; 472

&lt;212&gt; PRT

&lt;213&gt; Chimaera sp.

&lt;400&gt; 111

Met Gly Cys Thr	Val Ser Thr Gln	Thr Ile Gly Asp	Glu Ser Asp Pro
1	5	10	15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Leu Gly  
35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu  
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys  
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr  
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp  
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys  
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala  
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys  
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr  
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala  
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly  
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met  
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu  
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile  
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
450 455 460

Asn Leu Lys Gln Leu Met Leu Gln  
465 470

<210> 112

<211> 472

<212> PRT

<213> Chimaera sp.

<400> 112

Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly  
35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu  
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys  
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr  
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp  
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys  
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala  
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys  
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr  
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala  
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly  
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met  
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu  
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile  
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
 420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
 435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
 450 455 460

Asn Leu Lys Tyr Ile Gly Leu Cys  
 465 470

<210> 113

<211> 472

<212> PRT

<213> Chimaera sp.

<400> 113

Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
 1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
 20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly  
 35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
 50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
 65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
 85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
 100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
 115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
 130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
 145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
 165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu  
 180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys

195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr  
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp  
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys  
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala  
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys  
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr  
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala  
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly  
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met  
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu  
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile  
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
450 455 460

Asn Leu Lys Gly Cys Gly Leu Tyr  
465 470

&lt;210&gt; 114

&lt;211&gt; 472

&lt;212&gt; PRT

<213> Chimaera sp.

<400> 114

Met	Gly	Cys	Thr	Val	Ser	Thr	Gln	Thr	Ile	Gly	Asp	Glu	Ser	Asp	Pro
1				5					10					15	
Phe	Leu	Gln	Asn	Lys	Arg	Ala	Asn	Asp	Val	Ile	Glu	Gln	Ser	Leu	Gln
			20					25					30		
Leu	Glu	Lys	Gln	Arg	Asp	Lys	Asn	Glu	Ile	Lys	Leu	Leu	Leu	Leu	Gly
		35					40					45			
Ala	Gly	Glu	Ser	Gly	Lys	Ser	Thr	Val	Leu	Lys	Gln	Leu	Lys	Leu	Leu
	50					55					60				
His	Gln	Gly	Gly	Phe	Ser	His	Gln	Glu	Arg	Leu	Gln	Tyr	Ala	Gln	Val
65					70					75					80
Ile	Trp	Ala	Asp	Ala	Ile	Gln	Ser	Met	Lys	Ile	Leu	Ile	Ile	Gln	Ala
				85					90					95	
Arg	Lys	Leu	Gly	Ile	Gln	Leu	Asp	Cys	Asp	Asp	Pro	Ile	Asn	Asn	Lys
			100					105					110		
Asp	Leu	Phe	Ala	Cys	Lys	Arg	Ile	Leu	Leu	Lys	Ala	Lys	Ala	Leu	Asp
		115					120					125			
Tyr	Ile	Asn	Ala	Ser	Val	Ala	Gly	Gly	Ser	Asp	Phe	Leu	Asn	Asp	Tyr
	130					135					140				
Val	Leu	Lys	Tyr	Ser	Glu	Arg	Tyr	Glu	Thr	Arg	Arg	Arg	Val	Gln	Ser
145					150					155					160
Thr	Gly	Arg	Ala	Lys	Ala	Ala	Phe	Asp	Glu	Asp	Gly	Asn	Ile	Ser	Asn
				165					170					175	
Val	Lys	Ser	Asp	Thr	Asp	Arg	Asp	Ala	Glu	Thr	Val	Thr	Gln	Asn	Glu
			180					185					190		
Asp	Ala	Asp	Arg	Asn	Asn	Ser	Ser	Arg	Ile	Asn	Leu	Gln	Asp	Ile	Cys
		195					200					205			
Lys	Asp	Leu	Asn	Gln	Glu	Gly	Asp	Asp	Gln	Met	Phe	Val	Arg	Lys	Thr
	210					215					220				
Ser	Arg	Glu	Ile	Gln	Gly	Gln	Asn	Arg	Arg	Asn	Leu	Ile	His	Glu	Asp
225					230					235					240
Ile	Ala	Lys	Ala	Ile	Lys	Gln	Leu	Trp	Asn	Asn	Asp	Lys	Gly	Ile	Lys
				245					250					255	
Gln	Cys	Phe	Ala	Arg	Ser	Asn	Glu	Phe	Gln	Leu	Glu	Gly	Ser	Ala	Ala
			260					265					270		
Tyr	Tyr	Phe	Asp	Asn	Ile	Glu	Lys	Phe	Ala	Ser	Pro	Asn	Tyr	Val	Cys
		275					280					285			



Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr  
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala  
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly  
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met  
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu  
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile  
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
450 455 460

Asn Leu Asp Glu Ile Asn Leu Leu  
465 470

<210> 115

<211> 472

<212> PRT

<213> Chimaera sp.

<400> 115

Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly  
35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu  
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys  
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr  
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp  
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys  
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala  
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys  
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr  
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala  
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly  
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met  
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu  
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile  
370 375 380

Asn Leu Arg Gln Tyr Glu Leu Leu  
465 470

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<211> 67
<212> DNA
<213> Chimaera sp.
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ggagacg                                           67
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<210> 117
<211> 21
<212> DNA
<213> Chimaera sp.
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<400> 117
gtatctttga accacttaga g                               21
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<210> 118
<211> 478
<212> PRT
<213> Chimaera sp.
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<400> 118  
Met Thr Leu Glu Ser Ile Met Ala Cys Cys Leu Ser Thr Gln Thr Ile  
1 5 10 15

Gly Asp Glu Ser Asp Pro Phe Leu Gln Asn Lys Arg Ala Asn Asp Val  
20 25 30

Ile Glu Gln Ser Leu Gln Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile  
35 40 45

Lys Leu Leu Leu Leu Gly Ala Gly Glu Ser Gly Lys Ser Thr Val Leu  
50 55 60

Lys Gln Leu Lys Leu Leu His Gln Gly Gly Phe Ser His Gln Glu Arg  
65 70 75 80

Leu Gln Tyr Ala Gln Val Ile Trp Ala Asp Ala Ile Gln Ser Met Lys  
                                   85                                  90                                  95

Ile Leu Ile Ile Gln Ala Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp  
                                   100                                  105                                  110

Asp Pro Ile Asn Asn Lys Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu  
                                   115                                  120                                  125

Lys Ala Lys Ala Leu Asp Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser  
                                   130                                  135                                  140

Asp Phe Leu Asn Asp Tyr Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr  
                                   145                                  150                                  155                                  160

Arg Arg Arg Val Gln Ser Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu  
                                   165                                  170                                  175

Asp Gly Asn Ile Ser Asn Val Lys Ser Asp Thr Asp Arg Asp Ala Glu  
                                   180                                  185                                  190

Thr Val Thr Gln Asn Glu Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile  
                                   195                                  200                                  205

Asn Leu Gln Asp Ile Cys Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln  
                                   210                                  215                                  220

Met Phe Val Arg Lys Thr Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg  
                                   225                                  230                                  235                                  240

Asn Leu Ile His Glu Asp Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn  
                                   245                                  250                                  255

Asn Asp Lys Gly Ile Lys Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln  
                                   260                                  265                                  270

Leu Glu Gly Ser Ala Ala Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala  
                                   275                                  280                                  285

Ser Pro Asn Tyr Val Cys Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile  
                                   290                                  295                                  300

Lys Thr Thr Gly Ile Thr Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys  
                                   305                                  310                                  315                                  320

Phe Lys Val Leu Asp Ala Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp  
                                   325                                  330                                  335

Ile His Cys Phe Glu Gly Ile Thr Ala Val Leu Phe Val Leu Ala Met  
                                   340                                  345                                  350

Ser Glu Tyr Asp Gln Met Leu Phe Glu Asp Glu Arg Val Asn Arg Met  
                                   355                                  360                                  365

His Glu Ser Ile Met Leu Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe  
                                   370                                  375                                  380

Lys Asp Thr Pro Phe Ile Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu  
 385 390 395 400

Glu Lys Val Lys Ser Met Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln  
 405 410 415

Gly Arg Val Gly Asp Ala Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile  
 420 425 430

Phe Leu Ser Leu Asn Lys Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr  
 435 440 445

Cys Ala Thr Asp Thr Gln Thr Met Lys Phe Val Leu Ser Ala Val Thr  
 450 455 460

Asp Leu Ile Ile Gln Gln Asn Leu Lys Glu Tyr Asn Leu Val  
 465 470 475

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 <212> DNA  
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<400> 119  
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 <212> DNA  
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<400> 120  
 gatccgtctc acttcagaaa gacaacaagc cataatag 38

<210> 121  
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<400> 121  
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 tgc 63

<210> 122  
 <211> 21  
 <212> DNA  
 <213> Chimaera sp.

<400> 122  
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<210> 123  
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 <213> Chimaera sp.

&lt;400&gt; 123

Met Thr Leu Glu Ser Ile Met Ala Cys Cys Leu Ser Glu Glu Ala Lys  
1 5 10 15

Glu Ala Arg Arg Ile Asn Asp Val Ile Glu Gln Ser Leu Gln Leu Glu  
20 25 30

Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Leu Gly Ala Gly  
35 40 45

Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu His Gln  
50 55 60

Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val Ile Trp  
65 70 75 80

Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala Arg Lys  
85 90 95

Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys Asp Leu  
100 105 110

Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp Tyr Ile  
115 120 125

Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr Val Leu  
130 135 140

Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser Thr Gly  
145 150 155 160

Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn Val Lys  
165 170 175

Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu Asp Ala  
180 185 190

Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys Lys Asp  
195 200 205

Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr Ser Arg  
210 215 220

Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp Ile Ala  
225 230 235 240

Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys Gln Cys  
245 250 255

Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala Tyr Tyr  
260 265 270

Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys Thr Asp  
275 280 285

Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr Glu Thr

290	295	300
Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala Gly Gly		
305	310	315 320
Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly Ile Thr		
	325	330 335
Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met Leu Phe		
	340	345 350
Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu Phe Asp		
	355	360 365
Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile Leu Phe		
	370	375 380
Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met Pro Ile		
385	390	395 400
Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala Glu Ala		
	405	410 415
Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys Thr Asn		
	420	425 430
Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln Thr Met		
	435	440 445
Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln Asn Leu		
	450	455 460
Lys Glu Tyr Asn Leu Val		
465	470	